

Amendments to the Claims:

Please amend the claims as shown. Applicants reserve the right to pursue any cancelled claims at a later date.

1 – 19 (cancelled)

20. (new) A method for producing a hole in a superalloy metal turbine component by pulsed laser beams, comprising:

using a shorter laser pulse length in a first process step for producing a first region of the hole in the superalloy metal turbine component; and

using a longer laser pulse length in a second process step for producing a second region of the hole in the superalloy metal turbine component.

21. (new) The method as claimed in claim 20, wherein the first region of the hole is an outer region of the hole and the second region of the hole is an inner region of the hole.

22. (new) A method for producing a hole in a component by pulsed laser beams, comprising:

generating a plurality of laser beams with different laser pulse lengths;

using a shorter laser pulse length in a first process step for producing the hole in the component;

using a longer laser pulse length in a second process step for producing the hole in the component;

diverting the laser beams onto the component via a plurality of mirrors, the mirrors physically separated from each other such that only one laser beam is directed onto the component at a time;

guiding the laser beams onto the component via an optical system.

23. (new) The method as claimed in claim 22, wherein the laser pulse lengths are continuously increased as a formation of the hole from an outer surface of the component into a depth of the hole.

24. (new) The method as claimed in claim 22, wherein in the first process step the laser pulse length of less than 100 ns is used and in the second process step the laser pulse length of greater than or equal to 50 ns and less than 10 ms is used.
25. (new) The method as claimed in claim 24, wherein in the first process step the laser pulse length of less than 50 ns is used and in the second process step the laser pulse length of greater than or equal to 100 ns and less than 10 ms is used.
26. (new) The method as claimed in claim 22, wherein the component has a layer system which comprises a substrate and a ceramic or metallic layer.
27. (new) The method as claimed in claim 22, wherein the metallic layer has a composition of MCrAlX,
wherein M is an element selected from the group consisting of iron, cobalt and nickel, and
X is yttrium and/or a rare earth element.
28. (new) The method as claimed in claim 22, wherein the substrate is a nickel-base, cobalt-base or iron-base superalloy.
29. (new) The method as claimed in claim 22, wherein the component is a turbine component of a gas turbine or steam turbine selected from the group consisting of: a turbine blade, a turbine vane, and a combustion chamber lining.
30. (new) The method as claimed in claim 22, wherein an outer upper region of the hole is produced first using the shorter laser pulse length in the first process step and a remaining region of the hole is produced using the longer laser pulse length in the second process step.

31. (new) A method for producing a hole in a component by pulsed laser beams, comprising:

generating a plurality of laser beams with different laser pulse lengths;
using a shorter laser pulse length for producing a first region of the hole;
using a longer laser pulse length for producing a second region of the hole;
diverting the laser beams onto the component via a plurality of mirrors;
simultaneously guiding the laser beams onto the component via an optical system.

32. (new) The method as claimed in claim 31, wherein the first region of the hole is an outer region of the hole and the second region of the hole is an inner region of the hole.

33. (new) The method as claimed in claim 31, wherein the laser pulse lengths are continuously increased as a formation of the hole from an outer surface of the component into a depth of the hole.

34. (new) The method as claimed in claim 31, wherein the laser pulse length of less than 100 ns is used for producing the first region of the hole and the laser pulse length of greater than or equal to 50 ns and less than 10 ms is used for producing the second region of the hole.

35. (new) The method as claimed in claim 34, wherein the laser pulse length of less than 50 ns is used for producing the first region of the hole and the laser pulse length of greater than or equal to 100 ns and less than 10 ms is used for producing the second region of the hole.

36. (new) The method as claimed in claim 31, wherein the component has a layer system which comprises a substrate and a ceramic or metallic layer.

37. (new) The method as claimed in claim 31, wherein the metallic layer has a composition of MCrAlX,

wherein M is an element selected from the group consisting of iron, cobalt and nickel, and

X is yttrium and/or a rare earth element.

38. (new) The method as claimed in claim 31, wherein the substrate is a nickel-base, cobalt-base or iron-base superalloy.

39. (new) The method as claimed in claim 31, wherein the component is a turbine component of a gas turbine or steam turbine selected from the group consisting of: a turbine blade, a turbine vane, and a combustion chamber lining.